

What is claimed is:

1. A method for producing a light guide plate, comprising the steps of:

providing a molding machine comprising an injection machine and a mold, the mold comprising a first plate and a second plate having a side wall opposite to the first plate, wherein a cavity is formed between the first plate and the second plate, the cavity communicating with a cylinder of the injection machine;

feeding a transparent resin into the cylinder;

melting the resin in the cylinder; and

injecting the molten resin from the cylinder into the cavity of the mold; and

cooling the molten resin so that it solidifies by means of a refrigerant filled in a fluid passageway that is provided in the first plate parallel to the side wall of the second plate;

wherein a viscosity of the molten resin at an inlet of the mold is in the range from about 200 to about 1,000 Pa.sec, and an injection rate of the molten resin is in the range from about 1,000 to about 2,500 cm³/sec.

2. The method for producing a light guide plate as claimed in claim 1, wherein the resin is methyl methacrylate resin.

3. The method for producing a light guide plate as claimed in claim 1, wherein the temperature of the resin in the cylinder is set in the range from about 170 to about 300°C.

4. The method for producing a light guide plate as claimed in claim 1, wherein the temperature of the resin in the cylinder is set in the range from 190 to 270°C.

5. The method for producing a light guide plate as claimed in claim 1, wherein the temperature of the resin in the cylinder is set in the range from 230 to 260°C.

6. The method for producing a light guide plate as claimed in claim 1, wherein a viscosity of the molten resin at the inlet of the mold is in the range from about 50 to about 5,000 Pa.sec.
7. The method for producing a light guide plate as claimed in claim 1, wherein the molten resin is continuously injected into the cavity with rotation of a screw in the cylinder.
8. The method for producing a light guide plate as claimed in claim 1, wherein an engraved pattern is provided on a side wall of the first plate or the side wall of the second plate, in order to provide the obtained light guide plate with a corresponding pattern of dots.
9. The method for producing a light guide plate as claimed in claim 1, wherein an engraved pattern is provided on a cavity plate that is attached on a side wall of the first plate or the side wall of the second plate, in order to provide the obtained light guide plate with a corresponding pattern of dots.
10. A mold for producing a light guide plate, comprising:
 - a first plate having a side wall;
 - a second plate having a side wall opposite to the side wall of the first plate;
 - a cavity for molding a light guide plate defined between the first plate and the second plate; and
 - a fluid passageway provided in the first plate for cooling and solidifying molten resin injected into the cavity;wherein the fluid passageway is parallel to the side wall of the second plate.
11. The mold for producing a light guide plate as claimed in claim 10, wherein a fluid passageway is provided in the second plate, parallel to the fluid

passageway of the first plate.

12. The mold for producing a light guide plate as claimed in claim 10, wherein the cavity is wedge-shaped.
13. The mold for producing a light guide plate as claimed in claim 10, wherein the cavity has a papilionaceous shape in cross-section.
14. The mold for producing a light guide plate as claimed in claim 10, wherein the mold is made of copper or a copper alloy.
15. The mold for producing a light guide plate as claimed in claim 14, wherein a material of the mold is mixed with any one or more of Ni, NiCo, NiP, SiC, Cr and TiC.
16. The mold for producing a light guide plate as claimed in claim 10, wherein an engraved pattern is provided on a side wall of the first plate or the second plate.
17. The mold for producing a light guide plate as claimed in claim 10, further comprising a cavity plate attached on the side wall of the first plate or the second plate, the cavity plate having an engraved pattern provided thereon.
18. The mold for producing a light guide plate as claimed in claim 16, wherein the pattern comprises a plurality of concavities.
19. The mold for producing a light guide plate as claimed in claim 17, wherein the pattern comprises a plurality of concavities.
20. A method of making a light guide plate comprising:
providing a mold including opposite first and second plates wherein the first plate defining a non-oblique side wall and said second plate defining an

oblique side wall spatially facing to each other and commonly defining a cavity therebetween for forming said light guide plate; and providing said second plate with a plurality of cooling fluid passageways adjacent to said oblique side wall under a condition that said plurality of passageways are arranged in a plane with regard to the oblique side wall in a non-parallel manner.